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ABSTRACT

This annotated bibliography on developmental learners at the postsecondary level was compiled and edited from computer searches of relevant databases as well as a manual library search. Annotations are organized according to specific types of developmental learners and specific types of developmental education programs and services. Annotations were selected on the basis of research methodology and implications for collegiate educators and date from 1966 through 1992. The 80 items are grouped into the following categories: research identifying developmental learners (definition, historical overview, characteristics); research identifying the needs of developmental learners (programs and services); research identifying developmental education; research identifying differential perspectives; research identifying the curriculum of developmental education; research regarding retention of developmental learners; research identifying the diversity of developmental learners; and research identifying the effectiveness of mathematical programs on developmental learners. (DB)

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Nature and Needs of Developmental Learners

A Selected Annotated Bibliography

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HE 026 909

Running Head: DEVELOPMENTAL LEARNERS

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Biographical Information

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Biographical Information

Betty L. Farmer is an Assistant Professor of Nursing in the School of Nursing at Grambling State University. She earned the B.S.N. Degree from Northeast Louisiana University; M.S.N. Degree from Northwestern State University, Louisiana and is currently pursuing the Ed.D. Degree in Higher Education at the University of Arkansas. Mrs. Farmer has held both administrative and clinical positions at Louisiana State University Medical Center. She has published a number of articles in refree Journals and Eric Database. Mrs. Farmer's research interest include Critical Thinking Skills of College Students and Women in Higher Education.

Nature and Needs of Developmental Learners

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Editors

Preface

It is the belief of these researchers that a scholarly edited Annotated Bibliography is a valuable tool for research and inquiry regarding the nature and needs of developmental learners. We believe that this Selected Annotated Bibliography meets that requirement.

If colleges and universities are to successfully meet the goals of recruiting and graduating developmental learners, they must first develop a knowledge base regarding the nature and needs of these students. This Annotated Bibliography was developed then, to help institutions meet these goals.

The annotations were compiled and edited from three data bases: ERIC, SIRS, and PSYCH LIT. A manual library search was also conducted. In an attempt to make this Selected Annotated Bibliography most usable, the annotations are organized according to research which

identifies specific types of developmental learners and specific types of developmental education programs and services. Annotations are further delineated, in some cases by sub-categories. Annotations selected for this bibliography were chosen on the basis of which studies used the most valid samplings for their data and presented information and/or conclusions having significant implications for collegiate educators concerned with literature selected for this Annotated Bibliography are data based.

Under each category, annotations are identified alphabetically by author, followed by title, source or publisher. Although not purporting to be exhaustive, we believe that this Selected Annotated Bibliography will make a significant contribution to the field of Developmental Education.

The Nature and Needs of Developmental Learners
A Selected Annotated Bibliography

I. Research Identifying Developmental Learners

A. Definition

Hardin, C.J. (1988). Access to higher education: Who belongs? Journal of Developmental Education, 12 (1). This article defines developmental students and makes assumptions about them. And makes a case for the place of developmental education.

Nist, S.L. (1985). Developmental Versus Remedial: Does A Confusion of Terms Exist in Higher Education Reading Programs? Journal of Developmental Education, 11, 4.

This article focuses on the differences between remedial and developmental programs and their places in higher education.

B. Historical Overview

Alvin Community College. The Development Program at Alvin Community College: A Description, Revised, Alvin, Tex.: Alvin Community College, 1984. 42 pp. (ED 248 938)

Describes the philosophy, purpose, operation, implementation, and assessment of the developmental education program at Alvin Community College (Texas), Traces the program's history and describes its target population, current organizational structure, and administrative concerns.

Boylin, H.R. and White, W. (1987. Educating all the Nation's People the historical roots of developmental education. Research in Developmental Education. 4(4).

This article provides an initial discussion of the historical antecedents of developmental education. It summarizes efforts to make access to college more equal and to serve those who are underprepared for college success.

Brier, E. (1988). Bridging the Academic Preparation Gap: An Historical View. Journal of Developmental Education, 8, 1.

This article gives a historical view of students in developmental education through

discussion of the following topics: 1) the presence of the underprepared students, 2) student inadequacies, 3) developmental education, 4) the causes for admission of underprepared students, and 5) effects of colleges' admitting underprepared students.

Dial, E. (1987. A longitudinal retention analysis of the enrollment history of students in a four-year public institution in the state of Louisiana (Doctoral dissertation, the Florida State University, 1987). Dissertation Abstracts International, 48, 574.

The purpose of this study was to examine the academic history of students enrolled in a representative state university during the period 1979 to 1985 to determine (a) the relationship between student characteristics (i.e., demographic academic variables) and retention status, and (b) the effect student characteristics have on semester retention ate. Student data by semester were obtained through the use of a computer read process.

The statistical analysis used was Retention Analysis. An amended form of Survival Analysis, part of the Statistical Package for the Social Sciences (SPSS), by Hull and Nie, 1981. Analysis of the data produced the following findings: (a) the most critical years of enrollment are the first two years; (b) white students had a higher retention rate and a higher graduation rate than did black students; (c) regular admission students had a higher retention rate and a higher graduation rate than did development education students; (d) retention and graduation rates of black and white students parallel each other when considered by admission status; (e) two hundred twenty (220) (38.7%) of all students to graduate were classified as developmental education students at admission; (f) students required to enroll in developmental English and math had a lower retention rate and graduation rate than did any other subgroup of students.

C. Characteristics

Bryan, Donna and Forman, David C. Characteristics of SUN Learners (First Four Offerings). Statistical Summary, No. 3. University of Mid-America: Lincoln, Nebraska, Aug. 76.

Data drawn from the registration form and the Student Information Questionnaire at the State University of Nebraska (SUN) provides general demographic characteristics about that University's learners (age, marital status, sex, annual income, family status, percentages of homemakers, etc.). Students evaluated in this report had participated in various multi-media courses.

Goubeaux, P. (1989). The effects of knowledge of learning style preferences plus self-control therapy on achievement and attitudes of at-risk incoming freshmen (Doctoral dissertation, the University of Toledo, 1989). Dissertation Abstracts International, 50, 3381.

The purpose of this study was to determine the additive effects of knowledge of learning

style preferences plus self-control therapy on academic achievement and study attitudes.

A pre-posttest control group design was used to test the research hypothesis. College grade point averages and the Study Attitude Scale of the Survey of Study Habits and Attitudes measured the dependent variables. The Productivity Environmental Preference Survey was used to assess learning style preferences. A total of 23 freshmen at a major midwestern university participated in three two-hour workshops throughout an eight-week period. The Mann Whitney U Test and the Wilcoxon Rank Sum Test for Matched Pairs were used to determine significance.

The results were nonsignificant and led to the conclusion that neither information about learning style preferences plus self-control therapy nor information about learning style preferences alone significantly affected achievement or study attitudes. Despite nonsignificant results, a trend toward

interested GPA with increased treatment complexity has implications for future research in this area. It was recommended that additional research be conducted with a larger sample size, increased numbers of sessions, and additional independent variables.

Jackson, M. (1989). A study management course for high-risk black college freshmen (Doctoral dissertation, western Michigan University, 1989). Dissertation AbstractsInternational, 51, 1921.

Two preliminary studies offer some background with respect to this area. The purpose of the present study was to evaluate the impact of a study management course on the academic performance of high-risk, black college freshmen admitted to Western Michigan University, Kalamazoo, on academic probation through the Martin Luther King, Jr. Program. The Study Management course was designed to provide behavioral consequences for students'

study behavior more immediately than is normally the case. Participants in the study management course met weekly with upper-class students to plan and review academic assignments, attend a study center for a minimum of eight hours per week, and received regular progress reports from course instructors. Although the students generally evaluated the course very positively, the procedures did not generate statistically significant differences between semester grade-point-averages.

Several recommendations were provided for improving the study management course and more generally, decreasing the attrition of high-risk, black college students. These recommendations included (a) increasing exposure to academic skill strengthening activities; (b) providing students with additional, training in study skills and strategies; (c) instituting a more detailed and quantitative, on-going evaluation of

students progress along relevant academic dimensions; and (d) providing a means by which high-risk students will be required to participate in such activities.

Rogers, D. (1986). A study of the use of the American College Testing program, Iowa silent reading test, and Nelson-Denny Reading Test as predictors of the grade-point averages of special admissions freshmen (Doctoral dissertation, Southern Illinois University at Carbondale, 1986). Dissertation Abstracts International, 47,33383.

The purpose of this ex post facto study was to examine the relationship between student performance in selected undergraduate courses and their performance on the Iowa Silent Reading Test, the Nelson-Denny Reading Test, and on the Academic Test of the ACT Assessment Program. Subjects (N - 135) were special admissions freshmen students at Southern Illinois University at Carbondale during the Fall Semester, 1984. The study sought to

determine the predictive validity of each of the aforementioned instruments with special admissions students. The dependent (criterion)variable for this study was the students GPAs as determined from the three undergraduate courses most commonly enrolled in as freshmen by the sample: Systematic Analysis of Text, English Composition, and Public Speaking.

It was found that all three instruments were positively correlated with GPA. Findings also indicated that the Nelson-Denny Reading Test total scores have the second best predictively validity, while the Iowa Silent Reading Test Scores have the least predictive validity with this sample.

Lutz, David A. "Who are the New Non-Traditional Learners?" College Board Review, n. 109, Fall 1978, pp. 26-30.

This article provides information on degree candidates enrolled with the Connecticut Board of State Academic Awards, an external degree

program. Information includes demographic characteristics, educational background, employment data and examinations utilized. Implications for non-traditional learners in higher education are offered.

California State Department of Education. Vocational Education for Persons with Special Needs. Sacramento: California State Department of Education, 1966.

This literature survey covers the vocational needs of various groups with special problems, including culturally deprived, aged rural persons, physically handicapped and mentally retarded.

II. Research Identifying the Needs of Developmental Learners

A. Programs and Services

Boylan, H.R. & Bonham, B.S. (1992). The Impact of Developmental Education Programs.

Review of Research in Developmental Education. This is a report of preliminary findings from research in progress. It discusses the impact

of developmental education programs.

Budig, Jeanne E., An Evaluation of a Junior College Developmental Educational Program, Paper presented at the Annual Forum of the Association for Institutional research, Orlando, Florida, June, 1986.

Using Roueche's standards for successful developmental programs, Vincennes University Junior College evaluated its mandatory developmental education program. Those students whose scores on the ACT or SAT suggest the need for remediation are tested. Those needing remediation are placed in a developmental reading, writing, and mathematics courses, as required. Evaluation findings concluded that placement tests given during freshman orientation indicated that 25% of the fall 1984 students required developmental courses; those who tested out of developmental courses exhibited significantly higher persistence and graduation rates than either the large developmental population or

the entire class; women completed more hours and had higher first and second semester grade point averages; and the retention rate of developmental students was about 52%. This report has merit for staff whose responsibility it is to design developmental programs.

Chand, S. "The Impact of Developmental Education at Triton College." Journal of Developmental Education, 1985, 9 (1) 2-5.

Describes the developmental education program at Triton College. Includes information on student placement, courses, faculty selection, reading and writing instruction, and mathematics instruction. Examines the college's learning assistance center and its efforts in the areas of tutoring special projects, and assistance for the disabled.

Cross, K.P. (1981). Adults As Learners: Increasing Participation and Facilitating Learning. San Francisco: Jossey-Bass Publishers.

Cross discusses adults participating and

facilitating in learning. The literature on participation is voluminous; useful and comprehensive summaries are contained in the literature.

Hardin, Carlette J., "Access to Higher Education: Who Belongs?" Journal of Developmental Education, vol. 12, No. 1, September 1988.

The author classifies students enrolled in developmental programs into six categories: those who made educational decisions adversely affecting their academic future; adult learners; students whose academic weaknesses were ignored; foreign students; handicapped students; and students with weak academic commitments. The author further suggests that a developmental program represents the only avenue of success for most high-risked students. While this study is not data-based, the classification of students enrolled in developmental programs is valuable for developmental program coordinators, counselors and instructors.

Jones, D.J. & Watson, B.C., (1990). "High risk" students in higher education, ASHE-ERIC Higher Education Reports.

This report focuses on the concept of high risk students, their problems and limitations, as well as their academic background and preparation. The report also discusses school readings, academic unpreparedness, and perceptions of the value of academic achievement.

Patty, K. (1989). An investigation of the relationship of selected variables as potential predictors of academic persistence among developmental students at a state university (Doctoral dissertation, Southern Illinois University at Edwardsville, 1989). Dissertation Abstracts International, 50,1923.

This study was designed for two purposes: (1) investigate the relationship of selected predictor variables to academic persistence, and grade point average of a group of academically high risk students, to determine

which factors differentiated persisters from nonpersisters, and (2) examined whether academic intervention associated with participation in a developmental program made a significant difference in grade point average and persistence.

Nine hundred eighty-seven (987) academically high risk freshmen who attained a midwestern university were included in the study to test the following hypotheses: (1) Completion of developmental courses will be significantly related to persistence of academically undergraduate students (2) Completion of developmental courses will be significantly related to university grade point average of academically underprepared students after matriculation into the regular college program. Hierarchical multiple regression analysis was employed to examine variable relationships. Major findings were: (1) developmental course completion is positively related to grade point average and persistence

of high risk college students, (2) course variable accounted for a greater portion of the variance in grade point average and persistence among black students than white students, and (3) several variables differentiated persisters from nonpersisters.

Spann, Milton G., Jr., and Thompson, Cynthia G., The National Director of Exemplary Programs in Developmental Education National Center for Developmental Education, College of Education, Appalachian State University, Boone, North Carolina, 1988.

The National Center for Developmental Education developed a national directory of exemplary developmental program which have reached a relatively mature level of operation and can serve as regional models and resources for developing programs. The directory contains: 1) a listing by state of institutions with model programs; 2) a list of particularly exemplary components (e.g., developmental courses, developmental courses,

developmental laboratories, study skills, counseling, advisement, ESL, evaluation, faculty training, CAI); and 3) a list of resource persons at the institutions. While this listing is not data-based, this is a valuable reference tool for developmental educators.

Hector, J.H. Establishing Cutoff Scores for Placement in Community College Developmental Courses. Morristown, Tenn.: Walters State Community College, 1984, 20 pp. (ED 246 934)

Describes a screening procedure implemented for entering students at Walters State Community College (Tennessee). Details the three-level system of cutoff scores used to help students interpret assessment results: STOP, indicating little chance of academic success; CAUTION, suggesting that students consider carefully their choices; and GO, indicating that students have the needed skills. Includes results of an assessment of the screening procedure and its effectiveness

in identifying students who need remediation.

Illinois Association for Personalized Learning Programs. "The Role of Developmental Education Programs in Providing Educational Excellence." RIE, Nov. 1987. n this position paper, study findings are presented showing the extent of which developmental education programs in Illinois have achievement quality. The study concludes that developmental education programs offer a solution for balancing quality and equality, by improving access to education, as well as raising verbal, quantitative and reasoning skills of students enrolled. The students also show that learners vary more in styles of learning and rates of learning rather than in ability to learn. The paper does not, however, include the specific studies and data upon which these conclusions are based. An examination of the data would be helpful in determining which programs offer the best approach to achieving student success.

Joseph, N. Integrated Language Skills: An Approach to

Developmental Studies. Lake City, Fla.: Lake City Community College, 1984. 14 pp (ED 241 095)

Describes and evaluates a lange skills program aimed at increasing the chances of academic success among remedial students. Emphasizes that the program concentrates first on developing students' speaking and listening skills before proceeding to more complex reading and writing tasks. Evaluation reveals that students who complete the language skills program and subsequently take the college's basic English course perform better on class tests than students who complete only the basic English course.

Marcotte, J. "Cincinnati Technical College Developmental Education Program." Paper presented at the Annaul Conference of the National Association for Remedial/Developmental Studies in Postsecondary Education, Philadelphia, March 8-10, 1984. 49 pp. ED 251 137).

Details the goals, objectives, and components of the developmental education program

providing basic skills instruction for students who have been accepted conditionally into health, business or engineering career programs at Cincinnati Technical College (Ohio). Cites a 90 percent success rate with students who see the program through completion and notes that, of those student, 90 percent succeed in the regular college program. Includes course outlines and grading policies.

McClure, P.J. Science Mastery: A Design for High-Risk Student Success Columbia, S.C.: Midlands Technical College, 1984, 9 pp. (ED 259 785)

Describes a three-phase developmental science program in which students gradually progress from developmental to college-level course work. Notes that the program begins with well-ordered, tightly structured mastery learning experiences, precedes to more independent instruction, and concludes with mainstream class instruction supplemented by tutorial assistance. Indicates that the

program has increased student success in science courses and resulted in higher persistence rates overall.

Michaels, L. Milwaukee Area Technical College: The Crossover Program. Milwaukee, WI: Department of Research, Planning and Development, Milwaukee Area Technical College, 1986 24 pp. ED 270 161) Describes and evaluates Milwaukee Area Technical College's Crossover Program, which was designed to help students with low assessment scores improve their reading, math, and study skills. Includes information on admissions, orientation, and attendance policies as well as outcome data on retention and persistence among program students.

Rounds, J.C., and Andersen, D. "Placement in Remedial College Classes: Required Versus Recommended." Community College Review, 1985, 13 (1, 20-27. Reviews literature on the questionable value of remedial instruction during the 1960s and 1970s, the improvement of intake and placement procedures during the subsequent decade, and

student participation in voluntary remedial programs. Cities recommendations emerging from the most recent studies of remedial instruction, and draws on this literature to note the increased use and consequence of mandatory placement and testing.

B. Needs Assessment

Roueche, J.E. and others. "Access with Excellence: Toward Academic Success in College." Community College Review, 1985, 12 (4), 4-9.

Draws on a review of major studies conducted over the past ten years to examine the strengths and weaknesses of institutional responses to the growing number of students with insufficient basic skills. Notes that eh basic skills taught in remedial classes are not reinforced in the regular curriculum and that such courses are taught without reference to application in academic or vocational settings. Concludes with an outline of the elements that have characterized successful basic skills programs.

State University of New York. Basic Skills in Postsecondary Occupational Education: Faculty Development Resource Manual. Materials Developed and Used by New York State Two-Year College Staff in the Role of Faculty Trainers.

Albany: Two-Year College Development Center, State University of New York, 1984. 101 pp. D 253 269) Describes the implementation and outcomes of a statewide faculty development effort to involve vocational instructors in the development of classroom strategies that improve student basic skills. Describes strategies developed by participating instructors in the areas of math, writing, and career survival skills. Serves as a rare example of the participation of vocational faculty in basic skills instruction.

Truett, Carol. "Service to Developmental Education Students in the Community College; Does the Library Have a Role?" College Research Libraries, v. 44, no. 1, p. 20-28, Jan. 1983.

Forty-three Texas community college libraries

were surveyed. Although 90% of the colleges had a developmental education program, less than 28% provided a large number of library services to such programs. The study noted that the libraries were particularly deficient in bilingual handbooks and special library instruction for developmental students. The study recommends that community college librarians reassess library services to developmental education programs, in light of the growth of such programs, and the library's mission to support college curriculum offerings. The conclusions of the study are based on data collected in nine tables, included with the report. The recommendations, based on this research data, appear to be well founded.

Wilson, Harriet E. An Investigation of Intellectual and Non-Intellectual Variables as Predictors of Academic Success of Higher Risk College Freshmen at Southern Illinois University at Carbondale. Thesis, Southern Illinois University, Aug. 78.

The purpose of this study was to investigate personal and intellectual variables of the special supportive services population at Carbondale and to determine reliable and valid predictors pertaining to the academic success of future applicants. It was found that ACT composite scores were the best overall predictors although other variables added significance to the criterion used in this study.

Wong, E.C. A Master Plan for Developmental Education: A Proposal Office of Instruction Report No. 82-06. Los Angeles: Los Angles Trade-Technical College, 1982. 69 pp. ED 248 913) Proposes a master plan for developmental education at Los Angeles Trade-Technical College (California) detailing program goals, components, staffing, and budget. Addresses key questions relating to developmental education, including access and mission, program and resources, and guidance and placement. Elaborates on the program's four major components: counseling,

instruction, curriculum and professional development, and program evaluation.

III. Research Identifying Developmental Education and Practitioners

Dickens, Mary Ellen, Competencies for Developmental Educators Second Edition, Tri-County Technial College, Pendleton S.C., April 1980.

Developmental education practitioners formed a panel from ten different community colleges and had a three-day brainstorming session. These are the developmental designs and findings. They found that there were 113 professional competencies required of remedial instructors. From that information given they realized that a curriculum should be developed for the developmental educators. The 113 different competencies were divided into 8 categories: 1) To bring out personal qualities, 2) to apply their interpersonal skills, 3) know how to do instructional planning, 4) instructional teaching, 5) know how to structure and put your competencies

skills in order, 6) have a method for measuring student progress, 7) public relations, 8) program administration. From this information given in the three day brainstorming session the competencies are used as the basic for eight forms designed to do self, peer, supervisor, instructor evaluation of supervisor, student evaluation of instructor, what are the needs of the developmental staff, evaluation of the different department last and very important making a decision on how the prospective instructors would be chosen?

Hashway, Robert M. Foundations of Developmental Education. New York: Praeger, 1988.

This work examines the state of education in America. It provides a meaningful contribution to the development of education, as a science by presenting a method of developing educational materials and instrucitonal delivery systems based upon sound thesis of learning and information

processing.

Hashway, Robert M. A Handbook of Developmental Education. New York: Praeger, 1990.

This book attempts to articulate the mission and directions of Developmental Education as a new field of study. It traces the history of societal and political imput upon higher education and discusses how Developmental Education evolved.

Kulick, James A. and Kulick, Cher-Lin C. Developmental Instruction: An Analysis of the Research. Appalachian State University: National Center for Developmental Education. Summer 1991.

This research report examines the definition of Developmental Education and presents an analysis of the Research Literature concerned with developmental instruction and programs designed to address the needs of developmental learners.

Miller, Loretta, Are Developmental Program at the College Level Doing Their Job? Paper presented a the Annual Meeting of the Mid-South Education research

Association (9th), New Orleans, LA, Nov 12-14, 1980 (RIEAPR81) From 1979-1980 this study was conducted at Arkansas State University (ASU) to gather statistical information on the success of developmental mathematics program. A comparison between foundation mathematics students who took basic math as a follow-up course and the students who enrolled in basic math with out taking foundation math 32 out of 38 students who took basic mathematics after they had taken a foundation math pass, where as 33 out of 50 who took basic math alone passed. From this study we can hypothesis that ASU is doing their job in the developmental mathematics, with foundation math successfully serving as a prerequisite in preparatory classes for basic math. It would have been an excellent study if they had used more than one parameter to measure the success of the study.

Rouche, John E. et al. Open Door or Revolving Door? Open Access and the Community College Jossey-Bass,

Inc., April/May 1987.

Considers problems associated with community college open admission policies, questioning the colleges' effectiveness in developing needed skill levels. Reviews proposed solutions to literacy problems. Argues that literacy education is the responsibility of all faculty and that open door admission must be accompanied by policies that facilitate persistence and achievement.

IV. Research Identifying Differential Perspectives

Statewide Perspectives Argumedo, Barbara J., A Survey of Student Assessment and Developmental Education in Michigan's Public Community Colleges, Michigan State Board of Education, Lansing, MI, May, 1990. A 1989 Michigan study assessment and developmental education in the state's 29 public community colleges and 3 public four-year colleges documented the academic skill levels and characteristics of students; the testing policy and cut-off scores for remedial course placement; the developmental courses

curricula; types of support services provided; expertise of faculty and related professional development activities; the scope of the evaluation efforts; and the strengths and weaknesses in the developmental efforts. Of particular importance was that the study also compared data on students enrolled in developmental courses with those who tested into but did not enroll in developmental courses. Approximately two thirds of the students who demonstrated a need for developmental placement were actually enrolled accordingly. Based on the findings, a series of recommendations were developed for implementation by the board, the governor and the state legislature.

Carbone, G.J., and Torgerson, A. A Learning Assistance Support system for the Washington Community College System. Olympia: Washington State Board for Community College Education. 1983, 13 pp (ED 246 942).

Coffey, J. C. Remedial Education in California's Public

Colleges and Universities: Campus Perspectives on a Serious Problem Sacramento: California State Postsecondary Education Commission, 1983, 12 pp. (ED 230 227).

Reports on a series of fourteen site visits (including seven at community colleges) conducted as part of a statewide study of postsecondary remedial programs and services in California. Summarizes the responses of selected personnel at each campus on eleven issues.

Emmons, Joseph, Remedial/Developmental Education in Kansas Community Colleges, Summer 1987-Spring 1988, Kansas State Department of Education, Topeka, Kansas, 1988.

In 1988, a study was conducted to assess the status of postsecondary remedial/developmental education since 1986 when basic skills education was included as part of the role, scope and mission of the state's community colleges. Findings included: 1) completion rates for developmental courses, ranged, by

college from a low of 51% to a high of 93%, with a statewide average of 79%; 2) developmental enrollments comprised 3.72% of total credit hour enrollments statewide; 3) minorities constituted 26.9% of the unduplicated headcount enrollment in remedial courses and an estimated 9% in all courses; and 4) students over 21 years of age made up 44.5% of the total headcount in remedial courses. This study is of value to institutional administrators and program directors for comparison data.

Fadale, L. M., and Winter, G.M. Assessment of Developmental Programs for Postsecondary Occupational Education Students: A Task Force Report. Albany: Two-Year College Development Center, State University of New York, 1984, 34 pp. (ED 255275).

Summarizes the recommendations of a task force of developmental education professionals in New York that considered issues related to the evaluation of developmental programs from a

statewide perspective. Highlights the need to develop consensus on terminology; the need to deal with evaluation in the context of budgeting, student demographics, and college structure, and the need to maintain local flexibility on assessment processes.

Farland, R.W. Remediation in the California Community Colleges:Proposals for Board Policies and Actions. Sacramento: Office of the Chancellor, California Community Colleges, 1985, 24 pp. (ED 253 267) Presents recommendations of the Chancellor's Task Force on Academic Quality concerning remedial offerings in California community colleges. Proposes a new definition of remedial education, characterizing it (p. 10) as "that process which is designed to assist students to attain those learning skills necessary to succeed in college transfer, certificate, or degree courses and programs." Responds to recommendations drawn up by the California Postsecondary educational segment in remediation, evaluation processes, and

college relationships with adult schools.

Fauske, J.R. "Developmental Education: "The Second Chance?" In Don A. Carpenter (ed.), Focus: A Forum on Teaching and Learning in Utah Community and Technical Colleges. Vol. 2. Salt Lake City, Utah State Board of Higher Education, 1985, 37 pp. (ED 234 840)

Defines developmental education and discusses in today's educational arena. Points out (p. 27) the difference between developmental education (a "repetition of processes which were not initially successful"). Argues that developmental education at the ceiling level does not necessarily constitute duplication of effort and urges the continuation of developmental programs in Utah's institutions of higher education.

Gainous, Fred, Remedial/Developmental Programs in Kansas Institutions of Higher Education, Fiscal Year 1985, State of Kansas, Topeka, Kansas, 1986.

The State of Kansas conducted a study to

compare remedial and developmental programs in the Kansas community college system with those offered by the state's university system for the fiscal year 1985. Findings included: 1) the heaviest concentration of remedial and developmental courses for both systems were in the content area of mathematics, reading and English; 2) 40% of the remedial students were enrolled in mathematics courses, 33% in English courses, and 19% in reading courses; and 3) 11,535 university students and 6,748 community colleges. This study is valuable to developers of developmental programs.

Sprinthall, Norman A. Adults as Learners: A Developmental Perspective. Paper prepared for a conference on "Exploring Issues in Teacher Education," Austin, TX., Jan, 10-12, 1979.

Studies which examine the psychological predictors of successful adult performance are reviewed. Factors such as ego maturity and personal competence (developmental psychological characteristics) are indicated

as responsible for effective and ineffective performance. A series of studies also documents that successful adult functioning in general and adults in teaching is determined by the maturity developmental level of the adult. As a result of these studies, efforts are underway to incorporate a developmentally oriented approach to teacher training. The weakness of this paper is that while it describes the nature of the studies predicting adult performance levels, the data supporting the conclusions are not given.

Morante, E.A. and others. Reports to the Board of Higher Education on the Character and Effectiveness of Remedial Programs in New Jersey Public Colleges and Universities in Fall 1981. Trenton: New Jersey Basic Skills Council, New Jersey State Department of Higher Education, 1982 168 pp. (ED 233 757)

Reviews the status of remedial programs in New Jersey Public colleges. Presents data related to remedial course passing rates, attrition, and student performance in

subsequent courses. Notes that a relatively large number of students, especially those in mathematics courses, did not complete their remedial courses and that students completing remedial courses persisted in college at the same rate as students who did not need remediation.

University of Nevada System. An Assessment of Developmental and Remedial Education in the University of Nevada System, Reno: University of Nevada System, 1984, 31 pp. (ED 258 621).

Discusses trends and issues related to remedial education nationwide and presents the results of a study of developmental programs in selected Nevada universities and community colleges. Profile enrollment, personnel course offerings, and funding levels in Nevada developmental programs.

V. Research Identifying the Curriculum of Developmental Education

Manikas, WS.T. "Holistic Teaching. "Paper presented at

the Annual National Convention of the Association for the Improvement of Community College Teaching, Louisville, KY, November 2-5, 1983. 10 pp.. (ED 237 155)

Reviews recent research, particularly brain research, on how individuals learn and relates this information to the development of programs and international methods. Recommends that developmental programs take a holistic approach that focuses on affective-sensory development as well as on cognitive learning.

Pherson, V. (1985). Patterns of achievement of selected criterion measures related to a college level developmental reading and study skills course for the IPFW freshmen (Doctoral dissertation, Indiana University, 1985. Dissertation Abstracts International, 46,2672.

This study investigated the question: Are there significant differences in two-year retention, cumulative course hours, or two-year G.P.A. among Indiana University-Purdue

University at Fort Wayne (IPFW) freshmen who enroll and do not enroll in the adult developmental reading course, Education X150? The students were classified into four groups: (1) those students who needed and completed Education X150; (2) those students who needed but did not complete Education X150; (3) those students who needed but did not take Education X150; (4) those students who did not need and did not take Education X150. The academic performance over four semesters of these four student groups were compared on the criterion measures of retention, cumulative course hours, and G.P.A. by submitting the relevant data to chi Square analysis. Significant differences were found at the .05 level for the following comparisons. Group 1 students significantly outperformed Group 2 and Group 3 students on retention, accumulated course hours, and G.P.A. Group 4 significantly outperformed Groups 2 and 3 retention, accumulated course hours, and G.P.A. Results

indicated that developmental reading courses can and do make a difference in developmental student academic success. Moreover, it was concluded that an adult developmental reading course can and does make a positive difference in the academic achievement of underprepared students who successfully complete such a course.

Pringle, Robert A. and Murphy, Lawrence R. "The Acceptability of Non-Traditional Degrees: Illinois Board of Governor's Program as a Case Study." Alternative Higher Education, v. 4 n. 3, Spring 1980.

Research from this study reveals that non-traditional degrees are gaining general acceptance among a wide variety of groups. Research was based on questionnaires completed by 686 graduates of Illinois' statewide Board of Governors Bachelor of Arts Degree Program. Questionnaire measured degree acceptability to graduates and their employers, extent to which student goals were met upon graduation, the

quality of program services and the success rate of graduates applying to graduate schools.

Robinson, Beatrice E. and Handel, Darwin D. Beyond Graduation: The Educational and Employement Experiences of an Effective Studies Degree Program. Paper presented at the annual meeting of the American Educational Research Association: New York, April 1977.

The study described follows up the educational and employment experiences of a non-traditional degree program that permits students to design their own four-year programs.

Robinson, Beatrice K. and Handel, Darwin D. "Beyond Graduation: The Educational and Employment Experiences of Graduates of and Elective Studies Degree Program." Research in Higher Education, v. 7 n. 2, 1977, pp. 97-115.

Results of a questionnaire follow-up study of the educational and employment experiences of the graduates from the experimental bachelor

of Elected studies BES) program at Minnesota are presented. BES graduates seem to compare favorably with regular liberal arts graduates.

Smith, S. (1985). The college performance of high risk student participants following a summer remedial program (Doctoral dissertation, Bowling Green State University, 1985). Dissertation Abstracts International, 47, 1212.

This study explored the academic success of the high risk entering freshmen who participated in Bowling Green State University's Summer Transition Quarter Program. The research paradigm of this study was the quasi-experimental ex post-facto two group design. Academic success was measured by university grade-point averages, difference between students' actual and predicated grade-point averages, quality points, persistence, academic status, successful completion of English 110 and 111, and English 112 grades. Students were followed for six grading

periods.

The 146 experimental subjects were entering freshmen who participated in the Summer Transition Quarter Program. The 207 control subjects were entering freshmen who were initially enrolled during the following fall grading periods. Both groups of students were remedial reading students. Each subject, who had on file a high school grade-point average, high school decile and ACT Composite score, was used in the statistical analyses.

Significant mean differences were found in grade-point averages after the first grading period; in quality points after the first, second and third grading periods; and in the difference between predicted and actual grade-point averages after the first, second, third, fifth and sixth grading periods. The experimental group did significantly better than the control group on these nine measures. Significant differences were also found in the academic status after the third and fourth

grading periods and in the successful completion of English 110 and 111. The control group did significantly better than the experimental group in these four measures.

Sullivan, Eugene J. ed.). External Degree Programs in the United States: Research and Policy Implications. American Council on Education Washington, D.C., 1978.

This study examines the extent to which external degrees are transferable to consequent educational programs and are negotiable in the world of work. The study concentrates on the benefits of the degree as a credential and does not consider curriculum issues or learning achievements.

Thomas-Muskovac, J. (1986). A study of the effectiveness of developmental reading and writing courses at Old Dominion university (Doctoral dissertation, Old Dominion University, (1986). Dissertation Abstracts International, 48,63.

This study was conducted in orde to (1) identify the number and demographic

characteristics of students served by the remedial programs, (2) determine academic achievement and persistence of these students, (3) assess the performance of developmental reading and writing students in regular college English and regular college history classes, (4) identify components and characteristics used in the developmental programs which are associated with the success rate of developmental students and (5) assess the effectiveness of developmental education programs based on the evaluation of the number of students completing degree programs. The academic years under consideration are 1980 through 1985.

The study employed two approaches: (1) a descriptive analysis of the variables of age, sex and race, (2) a statistical analysis utilizing the chi Square, analysis of variance and the two sample t-test to determine relationships between (a) developmental courses and demographic variables, (b) grades

received in developmental courses and persistence, (c) success in regular college English and history classes and successful completion of developmental writing and reading classes, (d) graduation rates for developmental and nondevelopmental reading and writing programs and the Special Services Program.

The descriptive analysis revealed that 29 percent of the entering freshmen class were deficient in reading and writing skills. Analysis of variance of the demographic variables of age, sex and race revealed that the only significant demographic variable was race. A Sheffe's Test revealed that the nonwhite group had a higher mean level of success.

The Chi Square Test produced the following results: (1) There was a difference between success in developmental reading and the number of semesters enrolled. (2) Success in developmental writing and the number of

semesters enrolled approached significance. (3) No significant association between success in regular English classes and successful completion of developmental writing courses was found. (4) A significant association was shown between success in regular history classes and successful completion of developmental reading classes. (5) The developmental students graduated at a significantly higher rate. The t-test revealed no significant difference between success in developmental reading and writing programs and participation in the Special Services Program.

VI. **Research Regarding Retention of Developmental Learners**

Fuller, A. (1983). A strategy to improve retention. NACADA-Journal, 3, 1, 65-72.

A freshman counseling program consisting of academic, career, and personal counseling and study skills, separate from departmental advising was implemented in an effort to

improve the retention of developmental students.

Suter, M.A. "A Comparison of Grades, GPA, and Retention of Developmental Students at Northwest Technical College. "Unpublished graduate seminar paper, University of Toledo, 1983, 24 pp. (ED 254 267)

Compares the academic success of students who completed developmental education courses with the academic success of students who did not take such courses but whose placement test scores indicated that they should. Describes the study methodology, which focused on analyses of class grades, overall grade point averages, and retention rates.

Berry, D. (1988). An attrition and retention study for Madonna College (Doctoral dissertation, Madonna College, 1988). Dissertation Abstracts International, 27, 13.

An initial step in addressing the problem was to identify the characteristics of successful and unsuccessful students. A "high risk" student profile allows the institution to

focus on students most likely to respond to retention efforts. This Dissertation examines student attrition from 1980 through 1988 in a co-educational, Catholic, liberal arts college. Degree-bound undergraduate students who enrolled during these years comprise the cohort. The study includes both conclusions with respect to the validity and meaning of observed trends and recommendations applicable to a student.

B. Programs and Services

Bray, C. (1985). Early identification of dropout prone students and early intervention strategies to improve student retention at a private university (Doctoral dissertation, North Texas State University, 1985). Dissertation AbstractsInternational, 47, 95. The purpose of the study was to identify high risk students by use of the Strategies Counseling Inventory College Form (SCI-C) in order to initiate early intervention counseling and advising.

The SCI-C instrument consisted of six scales designed to elicit attrition-related information about the first-time, freshmen students. The scales identified students who were in need of assistance, and they provided a profile of their problem areas. Utilizing the information which was available within ten days after the beginning of classes enabled Student Development personnel to select the students out of the freshmen class who needed help and to refer them to university resources for assistance.

King, A. (1989). The relative effectiveness of a specially funded retention program on minority performance at an undergraduate health professions college. (Doctoral dissertation, Temple University, 1989). Dissertation Abstracts International, 51,303.

The purpose of this study was to determine the relative effectiveness of a specially funded minority retention program at an undergraduate health professions college. Subjects

consisted of a HCOP Experimental group and various comparable groups of other college freshmen such as other minority and disadvantaged students and "regular" freshmen. Variables included college entrance measures (i.e., high school record and standardized test scores), program measures (i.e., student assessments of the prefreshmen program and course grades), and first semester grades and grade point averages (FSGPAs).

Minority prediction results showed that the single best predictors of HCOP students FSGPAs were the prefreshman course grades. Minority performance results showed that HCOP students performed consistently lower ont he college entrance measures than any other group, but comparably well (i.e., not significantly different) on FSGPAs as other freshman, except freshmen on College scholarships who attained higher FSGPAs. Study retention data showed that the prefreshman program was highly effective in preparing the HCOP students for

college, but that the academic support unit needs improvement in detecting and remediating HCOP students' academic deficiencies.

Finally, it was found that HCFOP students are more likely to drop out during the first rather than second semester and have higher grade point averages during the second semester.

The conclusions drawn from the analysis of the SCI-C datawere: (1) students who needed assistance to integrate into the academic and social environment of the university were identified by the SCI-C; (2) students at Hardin-Simmons University value adult/student relationship outside of the classroom; (3) attitudes of caring service creates a "staying environment;" (4) although the SCI-C indicates students' interests in support services, not all students who request assistance, avail themselves of the opportunities provided for them; (5) a relationship seems to exist between the intervention strategies provide particular freshmen and their successful

performance in the classroom (GPA of 1.60 or greater) and their persistence at the university for their second year; (6) the SCI-C provides attrition-related counseling information about students rather than predicting college academic success; and (7) the SCI-C is a valid instrument to use to facilitate student retention at Hardin-Simmons University retention program.

Snead, K. (1989). Effects of computer-assisted career guidance on selected aspects of career (Doctoral dissertation, Syracuse University, 1989). Dissertation Abstracts International, 51,82.

The study was designed to examine what effects implementing various career interventions would have on the levels of career maturity and career decidedness of academically disadvantaged students. A four group pre/posttest was used as the research design. Study participants were 104 freshmen in the Developmental Studies program at a four-your

state college.

The results of the analyses of covariance failed to reach the .05 level of significance, though score changes in the predicted direction were achieved by the career guidance groups. Comparisons of the three career guidance interventions had predicted that the SIGI only or counselor guidance only groups. Statistically significant differences did not result for these comparative analyses of covariance though the SIGI with counselor guidance groups reported greater positive gains on three of the five subscales of the CDI and CDS than did the other two guidance interventions. Finally, as a result of these findings, several observations about the provision of career services for academically disadvantaged students were discussed. Greater positive score changes resulted when academically disadvantaged students received counselor guidance only or in combination with use of SIGI, thus suggesting the importance of

individual counselor guidance with the academically disadvantaged students. Results of the study indicate that further career research with disadvantaged students is warranted.

Stalker, A. (1985). Critical reading instruction in college remedial reading classes (Doctoral dissertation, University of Georgia, 1985). Dissertation Abstracts International, 46,2644.

The purpose of this study were: (1) to compare the results of two approaches to critical reading instruction in college remedial reading classes, (2) to determine the relationship between critical reading ability and selected characteristics of subjects and (3) to determine whether six lessons in critical reading would improve subjects' critical reading ability. Subjects were 139 college freshmen in required remedial reading courses at a large, urban southeastern university. Subjects were pre- and posttested

with the Watson-Glaser Critical Thinking Appraisal, with adapted time limits and directions. Statistical treatments involved use of analysis of covariance, t-tests and correlation coefficients. Findings included the following: No significant difference existed between the two treatments. Critical reading ability was found to be related to scores on the Scholastic Aptitude Test-Verbal and a locally prepared basic skills reading test. Critical reading ability was not related to sex, age, race, Scholastic Aptitude-Mathematics, high school GPA or high school English average. Critical reading ability of subjects was not increased by six periods of critical reading instruction, when results of subjects from both treatments were combined.

Swinger, D. (1987). Academic performance of disadvantaged students' participating in a federally funded program at San Antonio College (Doctoral Dissertation, Texas A & M

University, 1987). Dissertation Abstracts International, 48,2520.

The primary objective of this study was to document and explain the effects which the Special Services Project has had on participants' academic performance. The following variables were investigated: (1) What types of special services are being provided? (2) Which categories of students are utilizing their services (3) To what extent are they using them? (4) specifically, are there significant differences in grade point averages and course completions between eligible students who participate in the special services project as opposed to students who do not?

Two samples were chosen. The first consisted of eligible students who used Special Services Project for a period of at least one year. The second group, which was the control sample, consisted of students who were very familiar to the first sample, but did utilize

the services. The dependent variable, "learning performance," was defined to include grade point averages as well as courses attempted and successfully completed. The independent variables which represented the school's Special Services Project were (1) tutoring, peer tutoring one on one group sessions; (2) other student support services which have a direct impact on the student's academic success--i.e. Personalized Guidance Counseling Tutoring, Curricula-Related Assistance and other Support Services.

The empirical evidence derived from this course sectional analysis substantiates a major assertion of this study: Participation in Special Services Project for Disadvantaged Students is related to the successful academic retention in an institution of higher learning. The effects of these services upon the users academic performance were measured by three variables which included: (a) grade point average achieved during the fall

academic period in 1983 which was slightly higher for participants (.33%) with no significant differences between the same two groups in 1984-1985 and 1985-1986. (b) academic hours which were earned between the two groups during the study period were slightly higher for the participating SSDS students. (c) A.C.T. composite scores showed no evidence of a significant difference between the two comparative groups.

The study concluded that successful academic retention as well as an improved grade point average during their first year of enrollment is related to the participation in Special Project activities at the institution.

II. Research Identifying the Diversity of Developmental Learners

A. African-Americans

Ducksworth, T. (1986). The educational expectations, aspirations and academic achievement of academically deficient minority students (Doctoral dissertation, The Ohio State

University, 1986). Dissertation Abstracts International, 47, 3676.

The study was conducted for the purpose of establishing a set of predictive characteristics for minority students who were underprepared for college coursework at the time of their enrollment, but were successful at the end of their freshmen year. The subjects of the investigation were minority students at the Ohio State University, who had ACT scores of 18 or lower in English, Mathematics or Composites categories; who received academic advisement and supportive services from the Office of Developmental Education; who were first quarter freshmen in the Summer or Autumn quarters of 1983; and for who ACT predictive data were available.

An ex post facto design was used in order to answer seventeen study questions that were a priority constructed. Some of the findings from the investigation were that 66% of the successful students expected to earn high-

level academic degrees; 75% expected to earn Grade-point averages of 3.0-4.0; 95% had participated in extra-curricular activities and most chose majors in Administrative Science, the Liberal Arts, and the General Baccalaureate Curriculum. The author concluded that academically-deficient students of minority races, who are most successful in the multiversity setting have high levels of self-concept; high levels of educational expectations; aspirations of majoring in fields that offer jobs allowing for upward mobility, and participated in extra-curricular activities while in high school. Moreover, it was concluded that the American College Test (ACT) scores are not reliable predictors of academic success or failure in the multiversity setting--for minority students.

Gray, E. (1989). The effects of administrative placement decisions upon undergraduate academic achievement in a predominantly Black-urban college (Doctoral dissertation, Temple

University, 1989). Dissertation Abstracts International, 50, 929.

This study, which examined data from six years of entering freshmen classes, was designed to examine the effects of the administrative decision to place students in a compensatory education program based on their entry level achievement scores. Those students whose scores fell below the median score of the lower ninety percent of students entering in any one year were placed in what was called, Group I, which was the control group who received remedial training. Group II students received no treatment activities.

The emphasis in the compensatory education program was the development of the basic skills during the first year of matriculation at the college. Group I and Group II students were compared. Clock hours versus credit hours between the two groups, freshman and senior grade point averages and Graduate Record Examination tests scores were

analyzed. The purpose was to determine if the remediation averages and Graduate Record Examination test scores were examined. The purpose of the examinations was to determine if the remediation did in fact help the Group I students.

It was found that this objective was not achieved. Nevertheless, ample positive evidence was found which indicated that the administrative decision to place freshman students in compensatory education based upon entry test scores provides a means through which all students desiring to enter Coppin State College may enter on a trial basis in an administratively manageable format.

Sellers, C. (1990). The effects of a career planning model on the career maturity of undecided freshman students in a state supported historically black college (Doctoral dissertation, Georgia State University, 1990). Dissertation Abstracts International, 51,4026.

The purpose of this study was to determine

effects of a career planning model on the career maturity of undecided freshmen enrolled in a personal orientation course at a state-supported, historically black college. The study also tested relationships and differences among undecided freshman students' performance on the Career Maturity Inventory (CMI) and selection of an academic major in comparison to gender, academic performance (measured by cumulative grade point average), and student classification (regular freshmen versus developmental studies freshmen).

Data were collected on 152 undecided freshmen students enrolled in for personal orientation classes during the 1990 spring quarter at Fort Valley State College. Since the four classes represented intact groups, the study's design was the nonequivalent control group design. The CMI was administered to each group as a pretest and posttest. Two classes (experimental groups) received instruction based upon a career planning model. Two

classes (control groups) received the regular instruction of Personal Orientation 102.

A significant difference was found between performance on the Career Maturity Inventory and the variables enrollment status (enrolled versus nonenrolled in a career planning course), gender, and student classification. There was no significant relationship between performance on the CMI and academic performance. A significant relationship was found between selection of an academic major and enrollment in the career planning course. There was no significant difference between selection of an academic major and gender, academic performance, and student classification.

Conclusions: There was evidence to indicate that enrollment in a personal orientation course with a career planning focus has a positive effect on the career maturity of undecided freshman students. In addition, undecided freshmen enrolled in this same

course demonstrated far greater career decision-making skills in selecting an academic major.

Programs and Services

Mayer, L. (1990). A comprehensive developmental education program for the underprepared college freshman (doctoral dissertation, Loma Linda University, 1990). Dissertation Abstracts International, 52,90.

The purpose of this study was to analyze the current programs for the underprepared college student at Loma Linda University Riverside (Freshman Seminar class, Black Mentor program, Hispanic Mentor program, Gateway to College, and Freshman Study Support program).

Research questions and hypotheses were applied to the evaluation of the five programs. The research question sought assessment of the results from participation in these five programs in terms of the four outcomes of successful completion of 12 units, cumulative grade point average, attrition, and retention

and the relationship of six demographic variables (gender, major, residence, ethnic affiliation, verbal test scores, and math test scores). The null hypothesis for both research questions stated that no significant relationship exists between participation, the four outcomes, and the six variables. Significant results were found for theattrition and retention in the Freshman Seminar class. Moreover, the research shows that more students stayed in school their freshman year and more students returned the following year among those who participated in the program compared to those who did not. Other significant findings for the Black Mentor and the Gateway to College programs showed that participation seemed to affect students adversely in successful completion of 12 units, attrition, and retention.

McFadden, M. (1986). The prediction of college course grades in a developmental studies program using preenrollment academic and demographic

variables (Doctoral dissertation, University of Georgia, 1986). Dissertation Abstracts International, 47,1208.

Academic and demographic preenrollment characteristics were used as predictors to obtain regression equations predicting first-quarter course grades of freshmen enrolled in a developmental studies program at a large southeastern university in each of the content areas of that developmental studies program: Developmental Studies English, Developmental Studies Math, and Developmental Studies Reading. The academic variables were: High school grade point average (HSGPA); the Verbal and Quantitative scores from the Scholastic Aptitude Test (SATV, SATM); Basic Skills Examination (BSE) scores in English, Math, and Reading; course-level placements in Developmental Studies English, Math, and Reading; and SAT/HSGPA discrepancy scores. The Demographic variables were race, gender, and athletic status.In each content area, the

best combination of factors predicting course grades was different and explained a small percentage of the total variance in course grades. Overall, the academic variables were more useful as predictors than were the demographic variables. Content-area knowledge and past academic performance were significant predictors in all three content areas. Of all the variables investigated, only the demographic variables race and athlete status were not useful as predictors.

Orris, J. (1989). The effects of the precollege experience on high-risk students in community colleges (Doctoral dissertation, University of Pittsburgh, 1989). Dissertation Abstracts Morgen, J. (1990). An investigation of factors that prolong undergraduate education at the university of Oregon (Doctoral dissertation, University of Oregon, 1990). Dissertation Abstracts International, 51,2590.

A pilot study was conducted and suggest that persistence variables may prolong undergraduate education and explain the

institution's comparatively low graduation rates. A consequent triangulated quantitative qualitative descriptive study explored the degree to which individual persistence variables influenced undergraduates to prolong their education. The self-report "Spring 1989 Survey of Undergraduates Applying for Graduation" (SS '89) was designed specifically for students to identify these variables; 770 (52%) out of 1,481 Spring 1989 undergraduates who applied for graduation filed the SS '89. Using the statistical software package SPSSX, analyses focused on significant chi square and Pearson associations to suggest reasons that lengthened undergraduates' graduation. Open-ended interviews with 30 Fall 1989 graduating undergraduates and 15 "key informants" confirmed the SS'89's self-report data and identified new variables. The findings suggested that major/career indecision, personal issues (health, family emergencies and responsibilities, etc.), financial

problems, and inadequate major program and general education advising were the primary reasons why undergraduates extended their University of Oregon education beyond four years in a four year program or five years in a five year program. Demographic influences such as age, gender, marital status, continuous enrollment, transfer, and career path and the construct of satisfaction also made a difference. That the results are institution-specific connote the important of considering the construct of organizational culture as a major factor that lengthens undergraduate education at the University of Oregon and elsewhere. This study investigated the effects of the pre-college experience at community colleges in southwestern Pennsylvania. The study covered a four year period using freshmen who entered in the fall of 1984 through the fall of 1988. The data were separated by those who participated and those who did not participate int he pre-

college program. In addition, the directors of each program were interviewed to obtain their perceptions of the strengths and weaknesses of their own program. In all four institutions, participants did not produce positive results in GPA, retention rates, and graduation rates. Variables which may have affected the results include: The small number of program participants, student motivation, students accepted into the program were not academically deficient, and students who eliminated their academic deficiencies during the regular academic year. The results suggest program success is based on four major differences: length of pre-college component, interconnection of program components, a proactive counseling component, and the inclusion of developmental coursework, but more definitive study of these factors is needed.

Research Identifying the Effectiveness of Mathematical Programs on Developmental Learners

Porter, J. (1987). An evaluation of the effectiveness of developmental studies mathematics programs on academic achievement in college algebra (Doctoral dissertation, 1987). Dissertation Abstracts International, 48, 588.

This study was conducted to evaluate the effectiveness of the developmental studies mathematics programs on academic achievement in college algebra at three comprehensive universities in Mississippi (Mississippi State University, University of Mississippi, and University of Southern Mississippi). The population was the entering freshmen who scored, 10, 11, 12, and 13 on the ACT mathematics subtest for the period 1981-82, 1982-83, and 1983-84.

Students were divided into two groups based on the ACT mathematics scores. Those who scored 10 and 11 comprised the experimental group that completed the developmental studies mathematics course prior to completing college algebra. The control group (scoring 12 and

13) were exempted from the treatment and were enrolled directly in college algebra.

The independent variable in the analysis was the ACT mathematics scores. The dependent variable was the mean grade point average of the students in the college algebra course. The analysis of variance of the data demonstrated a significant difference in the grades obtained in college algebra by the experimental group compared to the control group. The findings suggest that the developmental studies mathematics course was effective in helping the experimental group to exceed the grade point average of the control group in the college

algebra course.

END

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